

REMARKS

Favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claim 29 has been amended to incorporate claims 30 and 31, to add a plasticizer, and to delete the phrase “(d) a phosphate compound”. Other minor amendments are made which are self-explanatory.

Claims 30-31 and 49-50 have been cancelled without prejudice. Claims 32-33 and 51-52 have been amended with respect to their dependencies.

Turning to the Official Action, claims 29-32, 34, 40 and 43-50 are rejected under 35 USC 102 as anticipated by U.S. 5,830,568 to Kondo et al. This ground of rejection is respectfully traversed as applied to the amended claims.

The Examiner points out that the triethyleneglycol-di-2-ethylbutylene (herein after abbreviated as 3GH) is disclosed in Kondo et al. as the dispersant.

Please note that the 3GH disclosed in Kondo et al. is quite different from the specific dispersants recited in claim 29. Therefore, it is abundantly clear that claim 29 as amended is novel over Kondo et al.

Furthermore, it is noted that there is neither disclosed nor suggested in Kondo et al. that 3GH is a dispersant.

Additionally, in Kondo et al. there is disclosed that phosphoric acid esters, polyether esters and fatty acid esters can be used as the plasticizer. However, the specific dispersants of claim 29 are different chemical structurally from the above plasticizers disclosed in Kondo et al.

Therefore, it is quite clear that the rejection is untenable as applied to amended claim 29.

Claims 29, 34, 38, 41-42, 53, 56 and 60 are rejected under 35 USC 103 as unpatentable over U.S. 4, 020,217 in view of U.S. 5,830,568. This ground of rejection is respectfully traversed as applied to the claims after the foregoing amendments.

The Examiner states that the claimed invention of claim 29 is obvious from Kondo et al. and Karasudani et al. The Examiner points out that an alkali metal salt or alkaline earth metal salt of aliphatic monocarboxylic acids is used as dispersant.

However, this is untenable because there is neither disclosed nor suggested that any dispersant is used in Karasudani et al., nor that the alkali metal salt or alkaline earth metal salt of aliphatic monocarboxylic acids is used as a dispersant.

Additionally, in Kondo et al. and Karasudani et al., there is neither disclosed nor suggested the specific dispersants recited in claim 29. Although Karasudani et al. do disclose an alkali metal salt or alkaline earth metal salt of aliphatic monocarboxylic acids, the salt is different from “(b) a compound with at least one carboxyl group at its terminal position” recited in claim 29, for the reason stated in Applicant’s response dated November 8, 2005, at page 9, first paragraph.

Furthermore, the Examiner will find from the disclosure of the present application, particularly from the Working Examples and Comparative Examples, that the present invention shows an unexpected and surprising effect that ITO or ATO is so finely dispersed in the film. The difference between the presence and the absence of the specific dispersant in claim 29 is unexpected.

More specifically, when ITO particles or ATO particles are dispersed in PVB resin, whether or not an excellent dispersion of ITO or ATO is obtained depends on the choice of the dispersant. The specific dispersant in claim 29 is essential in addition to the use of the plasticizer to an excellent dispersion of ITO or ATO. This is apparent from the description of Examples and Comparative Examples in the specification of this application. As a typical example, the comparison of the working Example 24 and the Comparative Example 9 should be noted. In both of the Example 24 and the Comparative Example 9, 3GO (triethyleneglycol-di-2-ethylhexanoate), which is a plasticizer, was used to produce an ITO solution. (Please see the first full-paragraph of page 44 as well as those examples of the specification).

In Example 24, however, the specific dispersant in claim 29 (acetylacetone) was added to the solution in addition to the plasticizer (3GO), whereas in Comparative Example 9, acetylacetone was not added. The conditions of Example 24 and Comparative Example 9 were the same except for the above-mentioned condition, i.e. the presence or absence of the specific dispersant in claim 29. As a result, as shown in the following Table, it was found that ITO particles were finely dispersed in a solvent in any Examples, but ITO particles were not so finely dispersed in a PVB film in Comparative 9 as in Example 24.

	average particle diameter in solution	the average particle diameter in the film	the number of particles with not less than 100 nm per $1\mu\text{m}^2$
Example 24	35 nm	61 nm	0.1
Comparative Example 9	32 nm	103 nm	5

(Excerpts from Tables 5 to 8 of the present specification)

It is noted that the phrase "the number of tin-doped indium oxide and/or antimony-doped tin oxide particles with a particle diameter of not less than 100nm is not more than 1 per $1\mu\text{m}^2$ " is the essential feature of claim 29 as amended. From the right column of the above Table, it is clear that Example 24 is within the scope of claim 24, while the Comparative Example 9 is out of the scope of claim 24. The excellent effect of "the number of tin-doped indium oxide and/or antimony-doped tin oxide particles with a particle diameter of not less than 100nm is not more than 1 per $1\mu\text{m}^2$ " is quite unexpected and surprising.

These results are quite unobvious to those skilled in the art from the prior art.

Lastly, claims 29, 35-39, 43, 54-57 and 60 are rejected under 35 USC 103 as unpatentable over U.S. 6,387,516 in view of U.S. 5,830,568. This ground of rejection is also respectfully traversed as applied to the claims after the foregoing amendments.

The claimed invention is novel over Kondo et al. as mentioned above and novel over Shichiri et al. as the Examiner has admitted. The claimed invention shows an unexpected and surprising effect as fully mentioned above.

Shichiri et al. disclose acetylacetone, sulfonic acid, phosphoric acid, 2-ethyl hexanoic acid, carboxyl-modified silicone oils as the dispersant of metal salts such as sodium salts and potassium salts, which are different from ITO or ATO. However, Shichiri et al. neither disclose nor suggest ITO or ATO, and Shichiri et al. neither disclose nor suggests that ITO or ATO particles can be so finely dispersed by the use of the specific dispersant such as acetylacetone, etc.

With respect to the Examiner's Response to Arguments (pages 7 and 8 in Office Action), the Examiner states that "...the features upon which Applicant relies (i.e., carboxylic acid is an alkali metal salt or an alkaline earth metal salt)..." . However the Applicant did not make such an argument. The Applicant argued "carboxylic acid is not an alkali metal salt or an alkaline earth metal salt." Please see page 9, line 3 of the Response filed November 8, 2005. In new claim 29, (b) a compound with at least one carboxyl group at its terminal position is listed as one of the specific dispersants. But an alkali metal salt or an alkaline earth metal salt of the carboxylic acids (Karasudani et al.) is not described in any of the claims of this application.

In view of the foregoing, it is believed that each ground of rejection set forth in the Official Action has been overcome, and that the application is now in condition for allowance. Accordingly, such allowance is solicited.

Respectfully submitted,

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